REMARKS

The Official Action mailed December 5, 2002, has been received and its contents carefully noted. Filed concurrently herewith is a *Request for Two Month Extension of Time*, which extends the shortened statutory period for response to May 5, 2003. Accordingly, the Applicants respectfully submit that this response is being timely filed.

The Applicants note with appreciation the consideration of the Information Disclosure Statements filed on January 19, 1999, November 26, 1999, July 18, 2000, January 31, 2001, April 9, 2001, and June 11, 2002.

Claims 1-130 were pending in the present application prior to the above amendment. Claims 7-12, 32, 37, 42, 47, 52, 57, 62, 67, 72, 77, 82, 87, 92, 97, 102, 107, 112, 117, 122 and 127 have been canceled, and independent claims 1, 13, 19, 25, 56, 58-61 and 63-65 have been amended to better recite the features of the present invention. Accordingly, claims 1-6, 13-31, 33-36, 38-41, 43-46, 48-51, 53-56, 58-61, 63-66, 68-71, 73-76, 78-81, 83-86, 88-91, 93-95, 98-101, 103-106, 108-111, 113-116, 118-121, 123-126 and 128-130 are now pending in the present application and, for the reasons set forth in detail below, are believed to be in condition for allowance. Favorable reconsideration is requested.

The Official Action objects to the specification under 37 C.F.R. § 1.75(d)(1) and MPEP § 608.01(o), objects to the drawings under 37 C.F.R. § 1.83(a), and rejects claims 7-12, 32, 37, 42, 47, 52, 57, 62, 67, 72, 77, 82, 87, 92, 97, 102, 107, 112, 117, 122 and 127 under 35 U.S.C. §§ 103 and 112. In response, the Applicants have canceled these claims. Accordingly, withdrawal of the objections and rejections is in order and respectfully requested.

The Official Action rejects claims 1-6, 13-31, 33-36, 38-41, 43-46, 48-51, 53-56, 58-61, 63-66, 68-71, 73-76, 78-81, 83-86, 88-91, 93-96, 98-101, 103-106, 108-111, 113-116, 118-121, 123-126 and 128-130 as obvious based on the combination of JP 1-156725 and U.S. Patent No. 5,514,879 to Yamazaki. The Applicants respectfully submit that a *prima facie* case of obviousness cannot be maintained against the independent claims of the present invention, as amended.

As stated in MPEP §§ 2143-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or

motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims, as amended. Independent claims 1, 13, 19, 25, 56, 58-61 and 63-65 have been amended to recite that a surface of the pixel electrode is rounded along the rounded edge of the leveling film (see, for example, Fig. 7F). Also, claims 25, 60 and 65 have been further amended to recite that each of the first and second contact holes is tapered. JP '725 and Yamazaki '879 do not teach or suggest at least the above-referenced features of the present invention. Since JP '725 and Yamazaki '879 do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) is in order and respectfully requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please cancel claims 7-12, 32, 37, 42, 47, 52, 57, 62, 67, 72, 77, 82, 87, 92, 97, 102, 107, 112, 117, 122 and 127.

Please amend claims 1, 13, 19, 25, 56, 58-61 and 63-65 as follows.

1. (Amended) A display device comprising:

a substrate having an insulating surface;

at least one thin film transistor formed on said insulating surface, said thin film transistor having a semiconductor film comprising silicon as an active layer thereof;

an interlayer insulating film comprising an inorganic material formed on said thin film transistor;

a first contact hole in said interlayer insulating film;

a wiring formed on said interlayer insulating film and electrically connected to said thin film transistor through said first contact hole formed in said interlayer insulating film;

a leveling film comprising an organic resin to provide a leveled upper surface over said thin film transistor;

a second [opening] contact hole through said leveling film and said interlayer insulating film; and

a pixel electrode formed over said leveled upper surface and directly connected to said semiconductor film of said thin film transistor through said second [opening] contact hole,

wherein an edge of said leveling film at a periphery of said second [opening] contact hole is rounded[.],

wherein a surface of said pixel electrode is rounded along the rounded edge of said leveling film.

13. (Amended) A display device comprising:

a substrate having an insulating surface;

at least one thin film transistor formed on said insulating surface, said thin film transistor having a semiconductor film comprising silicon as an active layer thereof;

an interlayer insulating film over said thin film transistor, said interlayer insulating film comprising an inorganic material;

a leveling film comprising an organic resin formed over said interlayer insulating film and said thin film transistor; and

a pixel electrode formed over said leveling film and directly connected to said semiconductor film of said thin film transistor through an opening provided in said leveling film,

wherein an edge of said [organic resin] leveling film at a periphery of said opening is rounded[.],

wherein a surface of said pixel electrode is rounded along the rounded edge of said leveling film.

19. (Amended) A display device comprising:

a plurality of thin film transistors formed on an insulating surface, each of said thin film transistors comprising at least a semiconductor film;

an interlayer insulating film formed on the thin film transistors, said interlayer insulating film comprising an inorganic material;

first openings formed in the interlayer insulating film on the respective transistors;

a leveling layer formed over said interlayer insulating film to provide a leveled upper surface, wherein said leveling layer comprises an organic resin and is prevented from directly contacting said semiconductor film by said interlayer insulating film;

second openings through said leveling layer and said interlayer insulating film over the respective transistors; and

pixel electrodes formed over said leveled upper surface, each of said pixel electrodes being directly connected to said semiconductor film of the corresponding transistors through the corresponding second openings[.],

wherein an edge of said leveling layer at a periphery of each of said second openings is rounded,

wherein a surface of each of said pixel electrodes is rounded along the rounded edge of said leveling layer.

25. (Amended) A display device comprising:

a substrate having an insulating surface;

at least one thin film transistor formed on said insulating surface, said thin film transistor having a semiconductor film comprising silicon as an active layer thereof;

an interlayer insulating film comprising an inorganic material formed on said thin film transistor;

a first contact hole in said interlayer insulating film;

a wiring formed on said interlayer insulating film and electrically connected to said thin film transistor through said first contact hole formed in said interlayer insulating film;

a leveling film comprising an organic resin to provide a leveled upper surface over said thin film transistor;

a second [opening] contact hole through said leveling film and said interlayer insulating film; and

a pixel electrode formed over said leveled upper surface and directly contacting said semiconductor film of said thin film transistor through said second [opening.] contact hole,

wherein each of said first and second contact holes is tapered,

wherein an edge of said leveling film at a periphery of said second contact hole is rounded,

wherein a surface of said pixel electrode is rounded along the rounded edge of said leveling film.

56. (Amended) A display device comprising:

at least one thin film transistor formed over a substrate, said thin film transistor having a semiconductor film comprising silicon as an active layer thereof and

a gate electrode adjacent to said semiconductor film with a gate insulating film interposed therebetween;

an insulating film comprising an inorganic material formed over said gate electrode;

a first contact hole in said insulating film;

a wiring formed on said insulating film and electrically connected to said semiconductor film through said first contact hole formed in said insulating film;

a leveling film comprising an organic resin to provide a leveled upper surface over said insulating film;

a second contact hole through said leveling film and said insulating film; and

a pixel electrode formed over said leveled upper surface and directly connected to said semiconductor film through said second contact hole,

wherein an edge of said leveling film at a periphery of said second contact hole is rounded[.],

wherein a surface of said pixel electrode is rounded along the rounded edge of said leveling film.

58. (Amended) A display device comprising:

at least one thin film transistor formed over a substrate, said thin film transistor having a semiconductor film comprising silicon as an active layer thereof and a gate electrode adjacent to said semiconductor film with a gate insulating film interposed therebetween;

an insulating film over said gate electrode, said insulating film comprising an inorganic material;

a leveling film comprising an organic resin formed over said insulating film; and

a pixel electrode formed over said leveling film and directly connected to said semiconductor film through an opening provided in said leveling film,

wherein an edge of said [organic resin] leveling film at a periphery of said opening is rounded[.],

wherein a surface of said pixel electrode is rounded along the rounded edge of said leveling film.

59. (Amended) A display device comprising:

a plurality of thin film transistors formed over a substrate, each of said thin film transistors comprising at least a semiconductor film and a gate electrode adjacent to said semiconductor film with a gate insulating film interposed therebetween;

an insulating film formed over said gate electrode, said insulating film comprising an inorganic material;

a first opening formed in said insulating film over said semiconductor film;

a leveling layer formed over said insulating film to provide a leveled upper surface, wherein said leveling layer comprises an organic resin and is prevented from directly contacting said semiconductor film by said insulating film;

a second opening through said leveling layer and said insulating film over said semiconductor film; and

a pixel electrode formed over said leveled upper surface, said pixel electrode being directly connected to said semiconductor film through said second opening[.],

wherein said second opening is tapered,

wherein an edge of said leveling layer at a peripheral portion of said second opening is rounded,

wherein a surface of said pixel electrode is rounded along the rounded edge of said leveling layer.

60. (Amended) A display device comprising:

at least one thin film transistor formed over a substrate, said thin film transistor having a semiconductor film comprising silicon as an active layer thereof and a gate electrode adjacent to said semiconductor film with a gate insulating film interposed therebetween;

an insulating film comprising an inorganic material formed over said gate electrode;

a first contact hole formed in said insulating film;

a wiring formed on said insulating film and electrically connected to said semiconductor film through said first contact hole formed in said insulating film;

a leveling film comprising an organic resin to provide a leveled upper surface over said insulating film;

a second contact hole through said leveling film and said insulating film; and

a pixel electrode formed over said leveled upper surface and directly contacting said semiconductor film through said second contact hole[.],

wherein each of said first and second contact holes is tapered,

wherein an edge of said leveling film at a periphery of said second contact hole is rounded,

wherein a surface of said pixel electrode is rounded along the rounded edge of said leveling film.

61. (Amended) A television having a display unit and a tuner for receiving television radio wave, said display unit comprising:

at least one thin film transistor formed over a substrate, said thin film transistor having a semiconductor film comprising silicon as an active layer thereof and a gate electrode adjacent to said semiconductor film with a gate insulating film interposed therebetween;

an insulating film comprising an inorganic material formed over said gate electrode;

a first contact hole in said insulating film;

a wiring formed on said insulating film and electrically connected to said semiconductor film through said first contact hole formed in said insulating film;

a leveling film comprising an organic resin to provide a leveled upper surface over said gate electrode;

a second contact hole through said leveling film and said insulating film; and

a pixel electrode formed over said leveled upper surface and directly connected to said semiconductor film through said second contact hole,

wherein an edge of said leveling film at a periphery of said second contact hole is rounded[.],

wherein a surface of said pixel electrode is rounded along the rounded edge of said leveling film.

63. (Amended) A television having a display unit and a tuner for receiving television radio wave, said display unit comprising:

at least one thin film transistor formed over a substrate, said thin film transistor having a semiconductor film comprising silicon as an active layer thereof and a gate electrode adjacent to said semiconductor film with a gate insulating film interposed therebetween;

an insulating film over said gate electrode, said insulating film comprising an inorganic material;

a leveling film comprising an organic resin formed over said insulating film; and

a pixel electrode formed over said leveling film and directly connected to said semiconductor film through an opening provided in said leveling film,

wherein an edge of said organic resin film at a periphery of said opening is rounded[.],

wherein a surface of said pixel electrode is rounded along the rounded edge of said leveling film.

64. (Amended) A television having a display unit and a tuner for receiving television radio wave, said display unit comprising:

a plurality of thin film transistors formed over a substrate, each of said thin film transistors comprising at least a semiconductor film and a gate electrode adjacent to said semiconductor film with a gate insulating film interposed therebetween;

an insulating film formed over said gate electrode, said insulating film comprising an inorganic material;

a first opening formed in said insulating film over said semiconductor film;

a leveling layer formed over said insulating film to provide a leveled upper surface, wherein said leveling layer comprises an organic resin and is prevented from directly contacting said semiconductor film by said insulating film;

a second opening through said leveling layer and said insulating film over said semiconductor film; and

a pixel electrode formed over said leveled upper surface, said pixel electrode being directly connected to said semiconductor film through said second opening[.],

wherein said first opening is tapered,

wherein an edge of said leveling layer at a periphery of said second opening is rounded,

wherein a surface of said pixel electrode is rounded along the rounded edge of said leveling layer.

65. (Amended) A television having a display unit and a tuner for receiving television radio wave, said display unit comprising:

at least one thin film transistor formed over a substrate, said thin film transistor having a semiconductor film comprising silicon as an active layer thereof and a gate electrode adjacent to said semiconductor film with a gate insulating film interposed therebetween;

an insulating film comprising an inorganic material formed over said gate electrode;

a first contact hole formed in said insulating film;

a wiring formed on said insulating film and electrically connected to said semiconductor film through said first contact hole formed in said insulating film;

a leveling film comprising an organic resin to provide a leveled upper surface over said gate electrode;

a second [opening] contact hole through said leveling film and said insulating film; and

a pixel electrode formed over said leveled upper surface and directly contacting said semiconductor film through said second [opening.] contact hole,

wherein each of said first and second contact holes is tapered,

wherein an edge of said leveling film at a periphery of said second contact hole is rounded,

wherein a surface of said pixel electrode is rounded along the rounded edge of said leveling film.